Gaumard®
Simulators for Health Care Education

Newborn Tory™

User Guide

User Guide 15.7.1
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1. Introduction

1.1 Specifications

Newborn Tory

- Weight: 6 Lb
- Length: 21.75 inches
- Battery charger:
  - Power input : 100-240 VAC, 50/60 Hz, 0.35 A
  - Power output: 7.5 VDC, 1 A

Virtual Monitor

- Wireless connectivity: Wireless 802.11 (ad-hoc mode)

1.2 Care and Maintenance

> **WARNING: Damage caused by misuse is not covered by your warranty. It is critical to understand and comply with the following guidelines.**

General

- Avoid contact of rings and sharp objects to the simulator's skin.
- Ball point pens, ink, and markers permanently stain the skin.
- Do not wrap this or any other Gaumard product in newsprint.
- Marks made with ballpoint pens, ink or marker cannot be removed.
- Never disconnect the communications module while the UNI® software is running. The software will halt, and the module may be damaged.

IV Arm

- Vein tubing material is latex free.
- Only use Gaumard's provided simulated blood. Any other simulated blood containing sugar or any additive may cause blockage and/or interruption of the vasculature system.
- The use of needles larger than 22 gauge will reduce the lifetime of the skin and veins.
- Always purge with clean water and then drain the vein reservoirs at the end of the simulation session. Doing so will retard the formation of mold and prevent clogging of the system.
- We recommend flushing veins with 70:30 solution of clean water to isopropyl alcohol (IPA) at least once per month to prolong the life of the vasculature.
- When the skin and/or veins require replacement, refer to the "Consumables" section of this guide. For more information regarding the replacement of veins and other consumable items please contact customer service.

Operating Conditions

- Operating the simulator outside these ranges may affect performance:
  - Temperature: 50°-95° F (10°-35° C)
  - Humidity: 5%-95% (non-condensing)

Storage Conditions

- Storage temperature: 32°-113° F (0°-45° C)
- Humidity: 40%-60% (non-condensing)
- Do not stack or store heavy materials on top of the simulator boxes

Procedures

- Do not attempt to intubate without lubricating the airway adjunct with **mineral oil** lubricant. Do not use silicone oil as lubricant. Failure to lubricate the device will make intubation very difficult and is likely to result in damage to the simulator.
- Mouth to mouth resuscitation without a barrier device is not recommended, as it will contaminate the airway.
- Treat the simulator with the same precautions that would be used with a **real** patient.
- Do not attempt to birth Newborn Tory with Victoria

Cleaning

- The simulator should be cleaned with a cloth dampened with diluted liquid dish washing soap.
- Remove all traces of any lubricant.
- Do not clean with harsh abrasives.
- Do not use povidone iodine on the simulator.
- Dry thoroughly.
- The simulator is “splash-proof” but not water-proof. Do not submerge or allow water to enter the interior of the simulator.

Electrical Therapy

- Newborn Tory’s ECG snap connectors allow the attachment of real EKG electrodes. This feature permits the user to track cardiac rhythms with their own equipment just like with a human patient.

- NEVER deliver a shock to ECG snap connectors, marked green in figure 1. Doing so will not create a fire hazard, nor is there risk of shock to the provider, but internal damage to the simulator will result. This situation is considered improper use and is NOT covered by the newborn warranty. The system will require repair at our facility.

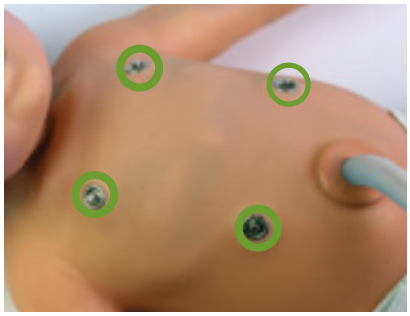


Figure 1

WARNING: Newborn Tory does not accept real electrical therapy. Do not pace or defibrillate Newborn Tory with real electrical equipment.

2. Overview

2.1 Features

- Tetherless—remains fully functional even while in transit
- Seamless, smooth and supple skin covers newborn from head to toe
- Newborn with seamless joints, endoskeleton, and realistic full term weight and length provide postural support, range of motion and resistance
- Anatomical landmarks include palpable fontanels and sutures
- Realistic rotation of the shoulder and hip joints with human-like range of motion allows practice of newborn assessment techniques
- Programmable conditions for APGAR assessment
- Internal rechargeable battery with fast charging adapter
- ECG snaps allow the application of real electrodes to track cardiac rhythms
- Simulator receives commands from a wireless tablet PC and operate at distances up to 300 feet
- Simulation Made Easy™

2.2 Newborn Tory™

Airway

- Neck hyperextension sensor detection and logging
- Oral and nasal intubation
- Use an ET tube or LMA
- Sensors detect depth of intubation
- Unilateral chest rise with right main stem intubation
- Multiple upper airway sounds synchronized with breathing

Breathing

- Automatic chest rise is synchronized with respiratory patterns
- Independent left and right lung sounds synchronized with breathing
- Ventilation may be assisted using BVM, ETT, or LMA
- Ventilations are measured and logged
- Chest compressions generate palpable blood pressure wave form and ECG artifacts

- Detection and logging of ventilations and compressions
- Simulated spontaneous breathing
- Variable respiratory rates and inspiratory/expiratory ratios
- Bilateral chest rise and fall
- Normal and abnormal breath sounds
- Anterior auscultation sites
- Real CO2 exhalation using replaceable cartridge

Cardiac

- ECGs are generated in real time with physiologic variations never repeating textbook patterns
- Heart sounds may be auscultated and are synchronized with ECG
- Heart sounds include a normal heart as well as atrial and ventricular septal defects

Circulation

- Measure blood pressure by palpation or auscultation in the right arm
- Use modified BP cuff to measure blood pressure
- Korotkoff sounds audible between systolic and diastolic pressures
- Pulse sites synchronized with BP and heart rate
- Bilateral IV arms and left leg with fill/drain sites
- Intraosseous access at tibia
- Sub Q and IM injection sites
- Chest compressions are measured and logged
- ECG monitoring using real devices
- ECG snap connectors
- Umbilical pulse, fontanel pulse, and bilateral brachial pulses synchronized with ECG
- Pulses varying with blood pressure, are continuous and synchronized with the ECG monitoring.
- Bowel sounds

Neural Responses

- Color responds to hypoxic events and interventions (healthy, mild cyanosis, severe cyanosis)
- Forearm movements reveal muscle tone (active, medium, limp)

2.3 Other

Vital Signs Monitor (Optional)

- Controlled via wireless touchscreen tablet PC
- Newborn vital signs
- Use selected configuration or create your own configuration to mimic the monitors used in your facility
- Customize alarms

User Interface

- Powerful and intuitive UNI™ software
- Includes a library of preprogrammed scenarios which can be modified by the instructor even during the scenario
- Create your own scenarios and edit the preprogrammed scenarios
- Change simulator's condition during the scenario
- Assess APGAR score of the newborn
- Changes in condition and care are time stamped and logged
- View the actions of up to 20 care providers using a responsive menu or write narrative
- Generate and share diagnostic lab results
- File sharing
- Links with optional recording and debriefing system integrate the event log with cameras and patient monitor
- Supplied with wireless tablet PC

3. Newborn Tory Setup

3.1 Initial Setup

Simulator Placement

Prepare the simulation area prior to unboxing the simulator. Remove the simulator from the box.

3.2 Newborn Battery

Newborn Tory includes two separate power adapters labeled “Newborn Tory Charger” and “Newborn Tory Power Supply”. Please review the use for each adapter below before using the simulator for the first time.

Battery life

Newborn has a maximum battery runtime of approximately 3 hrs. Total runtime is dependent on breathing rate, volumes, seizures, and muscle tone.
The battery charge is displayed on the software panel after the connection with the simulator is established. For more information about the battery indicator, refer to the “Working with UNI” section.

> **Do not store the simulator with a discharged battery. It is good practice to re-charge the battery at the end of every simulation session.**

If the simulator will not be used for an extended period, re-charge the battery at least once every 60 days. Doing so will prevent a reduction of the battery’s total charge capacity.

Charging the Battery

The simulator’s battery can only be recharged using the “battery charger”. In addition, the simulator must be off. The battery charger does not recharge the battery while the simulator is in use, nor does it keep the battery from discharging.

To charge the battery:

1. Ensure the simulator is turned off

2. Remove the charger/power supply cover

3. Connect the adapter labeled "Newborn Tory Charger" to the battery port located on the simulator's right foot

4. Allow the simulator to charge for 2-3 hours (or until the charger displays a green light). The charger indicator light will show red during the charge period and green once the process is complete.
5. After the charger indicator light turns green, disconnect the charger. The simulator is ready for use

> **Avoid using the simulator while the battery charger is connected. Please reference the troubleshooting guide for information on how to resolve battery issues.**

Using the Power Supply

The "power supply" adapter allows the simulator to operate through long simulations sessions by drawing power from the wall outlet and not battery reserve. Use the power supply for simulation sessions lasting 2 hours or more. If simulation sessions are shorter than 2 hours, use the simulator's battery reserve.

> **The "power supply" adapter will NOT re-charge the battery. Avoid using the "power supply" adapter when the simulator's battery is completely depleted.**

To operate the newborn using the power adapter:

1. Ensure the battery is fully charged
2. Disconnect the "Charger" and connect the "Power Supply" adapter.

3.3 Control Tablet PC

The tablet PC is preloaded with the UNI™ control software used by the facilitator to initialize the simulator and control the vital signs.

The Newborn Tory control computer package includes:
- Tablet PC with stylus
- Bump Case for Tablet PC
- RF communication module

Before turning on the computer for the first time, please review the documentation included with the product for important care and warning information.

Using the Stylus

The tablet's stylus is a pen-shaped input device used to interact with files and programs.

- Left click: Tap screen with the pointer. Tap twice rapidly to double-click.
- Right click: Tap and hold a highlighted item or hold the button near the tip of the stylus and tap the item or text.

Calibrating The Stylus

As part of the initial setup process, calibrate the stylus using the Tablet and Pen calibration tool in the Windows® control panel. Complete the calibration process while holding the pen in a natural writing position for greater accuracy during normal use.

Wireless Communication USB Module

The controlling computer transmits the startup and control commands to the simulator through the USB RF communication module.

1. Connect the RF communication module to an available USB port on the tablet and secure the RF communication module to the tablet using the Velcro patch.

The tablet is now ready to communicate with the simulator wirelessly. For information about the signal strength indicator, go to the “Working with UNI™” section.

> **Never disconnect the communications module while the Newborn Tory software is running. Doing so can seriously damage the module.**

3.4 Virtual Monitor (Optional)

The Gaumard Monitors software displays newborn ’s simulated vital signs in real time. The interactive monitoring software is already installed on the virtual monitor PC.

Virtual Monitor PC Setup

Refer to the manufacturer's documentation included with the virtual monitor system components for important safety, installation, and start-up information before turning on the computer for the first time.

To setup the virtual monitor PC:

1. Place the all-in-one PC within line of sight of the controlling computer
2. Connect the power supply
3. Connect the USB keyboard and mouse receiver
4. Turn on the computer

Virtual Monitor Wireless Connectivity

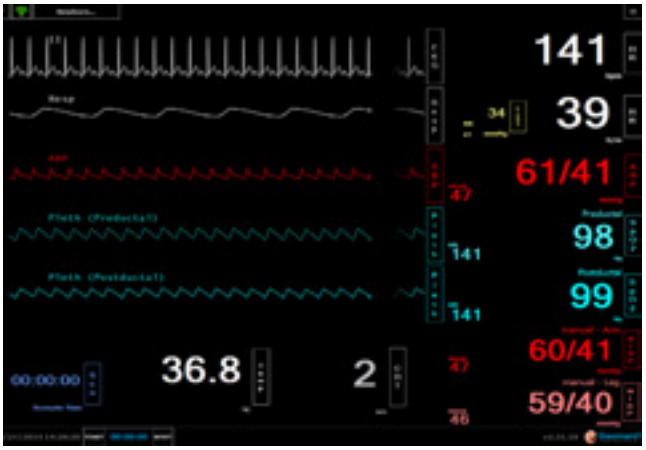
1. The control PC and the all-in-one virtual monitor PC automatically establish a wireless link at startup. The wireless connection allows the Gaumard control software to transmit the vital signs information to the Gaumard Monitors software.

2. To verify the wireless link between the two computers, click the wireless icon located on the task tray. The wireless network name is configured at the factory and may differ from the one seen above. To troubleshoot connection issues between the virtual monitor computer and the controlling tablet, refer to the Appendix.

Gaumard Monitors

1. After the wireless connection is established, double click or tap the Gaumard Monitors icon to start the vital signs software.

The Gaumard Monitors software is now ready to receive the vital signs information generated by the UNI™ control software.



For more information about the Gaumard Monitors software, please refer to the Gaumard Monitors user guide.

4. Working with Newborn Tory™

4.1 Airway

Nasal And Oral Intubation

Airway management techniques can be practiced on the newborn Tory including BVM, nasal/oral intubation, and suctioning. Endotracheal tubes, NG tubes and LMAs can be used.

Procedure	Recommended Device Size
Intubation (Blade size)	Miller 0
LMA	Size 1
Nasal Intubation	8 Fr catheter
Oral Intubation	ETT 3.0 no cuff, 6 Fr suction catheter

Do not introduce liquids when performing nasal and oral intubation. Doing so can permanently damage the system.

Always lubricate the tubing using mineral oil prior to performing any nasal or oral intubation.

Intubation Sensor

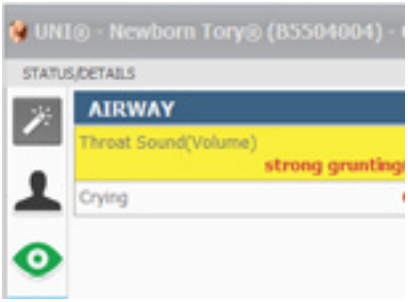
Once intubated, sensors detect the depth of the intubation tube. The detection notification is displayed on the Log Panel.

If the tube is inserted too deep the left lung is disabled automatically, realistically demonstrating right mainstem intubation.

Correcting the tube position enables the left lung.

Airway Sounds

Newborn Tory has multiple upper airway sounds and crying synchronized with the breathing.



4.2 Breathing

Respiratory Patterns

Users can control rate and depth of respiration and can choose independent right and left lung sounds, which are synchronized with selectable breathing patterns: periodic breathing, apnea, and normal.

Lung Sounds

Listen to the lung sounds using a stethoscope.

Multiple independent right and left lung sounds are available on Newborn Tory: normal, none, inspiratory stridor, grunting, wheeze, and crackles.

Pulmonary Ventilation

The airway contains nominal landmarks permitting either BVM or intubation exercises, including the use of a LMA. The trachea extends to the bronchi and lungs.

Ventilations volume and duration are measured and logged with the new effective CPR (eCPR) evaluator. Refer to the UNI® digital user guide under the software Menu > Help > Instruction Manual for information

Ventilation Calibration

Before using the feature for the first time, please calibrate the ventilation sensor by following the instructions outlined below.

The ventilation calibration wizard records the performance average of five ventilations as the benchmark for a correct ventilation. Perform the actions requested by the calibration wizard prompts. The CPR window evaluates provider performance based on the benchmark recorded during the calibration process.

To calibrate the ventilation performance benchmark using the UNI® software:

1. Click UNI Menu> Setup > Calibration > Ventilations, and click “Next”
2. The wizard prompts to perform ventilation #1
3. Perform the first ventilation. A green-filled oval indicates that the ventilation was recorded successfully

4. Perform ventilation #2 as prompted by the wizard. A green-filled oval indicates that the ventilation was recorded successfully

5. Continue through the calibration wizard to record a total of five ventilations

At the end of the calibration process, the wizard reports the average peak pressure and duration values for the procedure. Click “Save” to store the calibration settings.

> **Do not perform mouth to mouth ventilation. Doing so may lead to formation of mold in the airway. The airway itself cannot be sanitized or cleaned.**

Real CO2 Exhalation (Optional)

Newborn Tory can exhale real CO2 via a CO2 cartridge. Once a CO2 cartridge is installed, use the software controls to adjust volume of CO2 exhaled. Tory can also be operated without a CO2 cartridge installed. A virtual CO2 value is displayed on the virtual monitor PC.

Due to shipping regulations, CO2 cartridges are not included with the system. The required 8g threaded CO2 3/8”-24UNF-1A cartridges can be purchased at most bicycle or hardware stores.
Review the safety and warning checklist information before using the CO2 feature. Failure to comply with the warnings listed below and those included with the original cartridge packaging may result in serious personal injury.

- Always follow the manufacturer’s safety and warning information included with the CO2 cartridge package.
- Never point a CO2 cartridge at yourself or others
- Do not use damaged CO2 cartridges
- Do not puncture the cartridge CO2 seal manually
- Do not expose the CO2 cartridges to high temperatures as indicated on the product’s packaging

- Install threaded cartridges only (3/8”-24UNF-1A). Do not attempt to install a cartridge that does not meet the specifications listed in this document.
- Do not over tighten the cartridge into the simulator’s cartridge harness
- Always verify that the CO2 cartridge is empty using the software diagnostics before removing it. Do not remove the CO2 cartridge if the simulator is not fully operational.

Installing the Cartridge

1. Securely hold the bottom of the CO2 Cartridge protective case with one hand and open it by twisting its top counter-clockwise with the other hand. Continue to twist the protective case’s top until it comes off.

2. If there is a cartridge inside already, please refer to the “Removing the Cartridge” section below.

3. Align and lower the new cartridge into its slot on the bottom half of the protective case. Insert the co2 cartridge into the case, ensuring that the threads are aligned.

4. Screw the CO2 cartridge into the case until it stops and it’s tightly secured. The cartridge will feel cool to the touch as the case pierces the cartridge seal.

Note: Once you have started screwing in the cartridge, do not stop or attempt to unscrew the cartridge. The casing will puncture the cartridge seal during the tightening process

Hand tighten only. Do not over tighten

Do not unscrew the cartridge once the seal is broken

5. When the cartridge is completely and firmly in its slot, place the top of the cartridge's protective case back into position and twist it back on firmly.

Connecting The Cartridge to Tory:

1. Secure the cartridge to Tory's leg by using the Velcro strap.

2. Bring the CO2 connecting tube to the left upper back of Tory's shoulder and secure it into the port. The port is secured with a Luer-lock fitting and requires just a quarter turn to fasten it in place.

3. Ensure that all of the connections are firmly secure and locked in before proceeding.

OPTIONAL: If you wish to place the cartridge in a location further away from the manikin. Please use the 24" white extension tube. The extension tube can be attached between the Tory and the connecting tube.

Removing the Cartridge:

1. Before replacing the cartridge, please ensure that you have exhausted the contents of the cartridge. To exhaust contents of CO2 cartridge please turn the feature on and allow to run until no CO2 can be measured

2. Securely hold the bottom of the CO2 Cartridge protective case with one hand and open it by twisting the top counter-clockwise with the other hand. Continue to twist the protective case until the top comes off.

3. When the top comes off of the protective casing, you will see the cartridge.

4. With the cartridge completely spent, twist the cartridge counter-clockwise to unfasten it for removal.

5. Remove cartridge

Do not ever point the CO2 Cartridge at yourself or others

Adjusting CO2 Output

After the cartridge is installed, adjust the Lung CO2 parameter in the UNI software to increase or decrease the volume of exhaled CO2.

If a new CO2 Cartridge has been installed and lung CO2 has been set to a value above 0, but exhaled CO2 is not being detected by your equipment, please check your equipment and the simulator's connection to the cartridge case.

Chest Rise

Lungs expand normally permitting realistic chest rise. When starting the UNI®, the pre-programed profiles will load Newborn Tory with a healthy respiratory pattern with normal chest rise. Enable or disable the right or left lung independently.

Chest Compressions

Select a cardiac dysrhythmia, such as ventricular fibrillation or asystole and instruct the provider to perform chest compressions. Monitor the depth and frequency of chest compressions from the CPR trainer window.

Compression Calibration

Before using the feature for the first time, please calibrate the compression sensor by following the instructions outlined below.

The compression calibration wizard records the performance average of five compressions as the benchmark for a correct compression. Perform the actions requested by the calibration wizard following the most current CPR guidelines. The CPR window evaluates provider performance based on the benchmark recorded during the calibration process.

To calibrate the compression performance benchmark using the UNI® software:

1. Click Setup > Calibration > Compressions, and click “Next”

2. Select the target compression depth for the chest compressions calibration criteria.

3. The wizard prompts to perform compression “#1”

4. Perform the first compression. A green filled oval indicates that the compression was recorded successfully

5. Perform compression # 2 as prompted by the wizard. A green filled oval indicates that the compression was recorded successfully

6. Continue through the calibration wizard to record a total of five compressions

At the end of the calibration process, the wizard reports the average peak, pressure, and duration values for the procedure. Click “Save” to store the calibration settings.

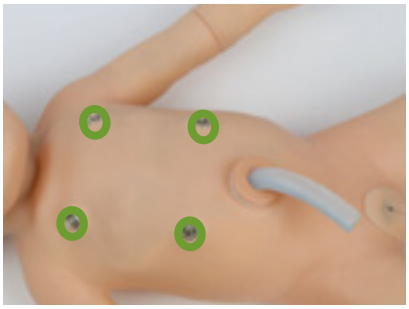
4.3 Cardiac

Heart Sounds

Newborn is equipped with several realistic heart sounds which are synchronized with the user-defined heart rate and cardiac rhythm.

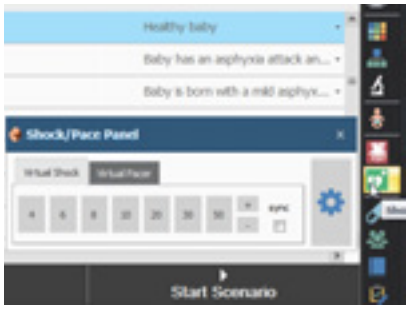
ECG Monitoring and Electrical Therapy

Newborn Tory is equipped with ECG snap connectors that allow the attachment of real ECG lead wires. This feature permits the user to track cardiac rhythms and events with their own equipment just like with a human patient.



Do not pace or defibrillate the simulator. Doing so will not create a fire hazard, nor is there risk of shock to the provider, but internal damage in the newborn may result. This situation is considered improper use and is NOT covered by the newborn Tory warranty.

Use the virtual shock panel to simulate the administration of electrical therapy via software. To open the virtual shock panel window, click on the "Shock/Pacer" icon as shown in the picture.



Instructions for Use

1. Turn on the simulator. Refer to the Equipment Set-Up section.

2. Connect the ECG lead wires to Tory's ECG snap connectors.

3. Connect the ECG lead wires to the ECG monitor.

4. Turn on the ECG monitor.

4.4 Cephalic

Muscle Tone and Seizures

Control the movement of the simulator's arms by enabling any of the available muscle tone settings: limp, reduced, active, left arm only, right arm only, jittery or seizures. For a more pronounced movement effect, lay the simulator on a flat surface with the arms parallel to the ground.

Cyanosis

Control and program the cyanosis visible on the simulator. Use the Hypoxia model to automate the change in cyanosis as the provider intervenes. For more information on the hypoxia model, go to the "Working with UNI" section.

4.5 Circulation

Palpable Pulses

Newborn Tory's palpable pulses (fontanel, brachial, and umbilical) are dependent on blood pressure. Use the software controls to disable distal pulses and simulate severe hypotension.

Manual Blood Pressure

Use the modified sphygmomanometer included with the system to measure blood pressure readings which are controlled by UNI. In addition, auscultate the Korotkoff sounds using a stethoscope.

Instructions for Use

1. Place the cuff around the simulator's upper right arm with the cuff mark at the medial site of the bicep brachii, about an inch (two cm) above the anterior elbow.

2. Connect the Luer-Lock fitting on the end of the extra branch to the Luer-Lock port on the simulator's right shoulder.

Placing the cuff differently might give an incorrect reading.

3. Inflate the BP cuff, and auscultate Korotkoff sounds as you would a normal patient.

Manual Blood Pressure Calibration

Before starting the calibration process, place the blood pressure cuff on the simulator as it would be placed on a real human patient.

To calibrate the blood pressure feature using UNI® software:

1. Click Menu > Setup > Calibration > Blood pressure and click "Next"

2. Set the pressure on the BP cuff to 0 (i.e. cuff valve open) as prompted by the calibration wizard.

3. Click the "OK" button to record the current cuff pressure.
   A green-filled oval indicates the pressure was recorded successfully.

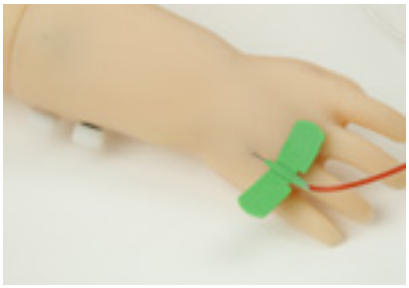
4. Set the pressure on the BP cuff to 20 mmHg as prompted by the wizard and then Click “OK” to record.

5. Continue increasing the BP cuff pressure as indicated by the prompt until the pressure of 300mmHG is recorded.

6. At the end of the calibration wizard, click “Finish” to close.

IV Arms

Bilateral IV training arms allow simulator’s intravenous infusions as well as drawing fluids.



Do not attempt to fill IV system without the drain connector in place.

Always leave the drain port connected when injecting fluids into the system.

Use only Gaumard’s provided simulated blood. Any other simulated blood brand containing sugar or any additive may cause blockage and/or interruption of the vasculature system.

Always flush the IV system with distilled water at the end of every simulation.

Filling the Vasculature

Follow the steps below to fill the IV vasculature for drawing fluids.

1. First, locate the fill syringe with fill tubing, the drain tube with pinch-clamp, the luer-connectors, and stoppers (included in your simulator’s packaging).

The threaded ports, located on both lower arms and left lower leg of the newborn, are used for filling and draining the IV system.

2. Fill the modified syringe and the fill tubing with water or diluted, Gaumard, simulated blood.

Procedure	Recommended Device Size
IV Access	23 gauge needle

3. Connect the fill and drain luer-connectors to lower arm/leg threaded ports as shown in the adjacent pictures

Do not over tighten the luer-connectors into the newborn's ports.

4. Connect the drain tube with clamp to one of the connectors and the fill tubing with syringe to the other connector.

5. Leave the drain tube's clamp open and depress the syringe until air has been purged from the IV system and fluid runs from the drain

During infusion exercises, always connect the stopper to one port and leave the drain tube attached to the other port. Direct the outflow into a collection container.

Use flashlight to detect dorsal pedal injection site on the left foot veins.

6. When finished with the IV simulations, flush and drain the IV vasculature and leave the stoppers connected to avoid leakage of any residual fluids.

Intramuscular injection sites

IM sites are located on the quadriceps for placement and technique exercises.

Intraosseous Access

The intraosseous access allows for infusing fluids, blood and/or drugs directly into the bone marrow of the tibia. This system allows for continuous intraosseous infusion.

1. To drain the fluids, connect the I/O draining tube to the back of the lower right leg.

2. Between exercises, reseal or replace the bone to avoid leaking from previous puncture holes.

Procedure	Recommended Device Size
IO Access	18 gauge needle

Replacing tibia bone and skin

To replace the tibia bone and skin follow the instructions:

1. Unsnap the lower right skin connector

2. Pull off the skin to access the tibia bone

3. Remove the tibia bone and replace it with a new one

To replace the skin, remove it completely form the lower right leg.

4.6 Systemic

Urinary Catheterization

Perform catheterization exercises via exchangeable male and female genitalia.

Procedure	Recommended Device Size
Urinary Catheterization	Lubricated 5 to 8 Fr
Maximum Capacity	8 ml

Instructions for Use

1. To fill the urine reservoir, remove the female/male genitalia by pulling the insert from the bottom as shown in the picture.

2. Locate the bladder filling tube shown in the picture and the syringe.

3. Fill the syringe with fluid and connect the bladder filling tube.

4. Insert the bladder filling tube to the urethral opening.

5. Fill the bladder with fluid up to 8 ml.

6. Reattach the female/male genitalia.

Umbilical Cord

1. Catheterize or inject the umbilical cord.

2. To fill the umbilical cord with fluid, locate the syringe with the tip adapter from the Fluid Filling Kit provided.

3. Inject any of the three blood vessels with 2 mL of water

For catheterization exercises, use a 6 Fr urethral round tip catheter lubricated with mineral oil.

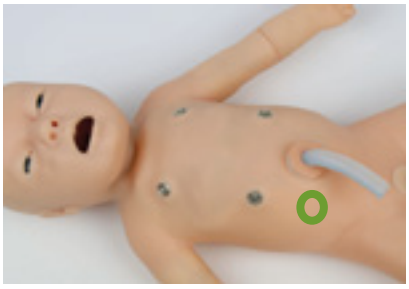
The replaceable umbilical cord can be trimmed or cut. Before removing or replacing the umbilical cord after an exercise, turn off the simulator by exiting the software (File>Exit), or set the simulator on STAND-BY mode. After the simulator is powered down, the umbilical cord can be removed safely. For information about ordering replacement umbilical cords, go to the Appendix.

Bowel Sounds

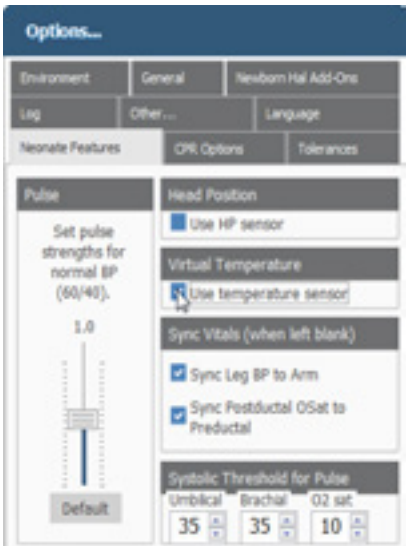
Auscultate the abdomen for normal and hyperactive bowel sounds.

Temperature probe placement detection

The temperature reading on the vital signs monitor is displayed when a temperature probe is placed on the lower right quadrant of the abdominal area circled in green in the picture.



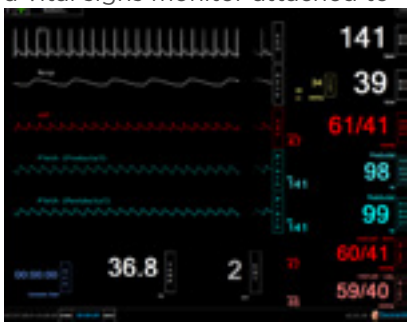
To enable the temperature sensor detection feature, go to Setup>Options>Neonate features Tab. Checkmark “Use temperature sensor” option and click OK to save. The log panel detects the placement of the sensor.



4.7 Other

Vital Signs Monitor (Optional)

The virtual vital signs monitor simulates a vital signs monitor attached to the simulated patient. The vital signs are synchronized through a wireless network between the facilitator's tablet and the computer running the monitor. You can customize each trace independently; users can set alarms, time scales, boundaries and grid options. For more information, refer to the UNI® digital user guide.



PRO + (OPTIONAL)

The Pro+ system is an all-in-one session recording and simulator control solution for facilitators in a lab or mobile environment. The built in UNI software allows the facilitator to control Newborn HAL while recording care provider interactions and event logs. The upgrade replaces the standard tablet with a convertible touchscreen laptop loaded with the Pro+ system and UNI, (2) Wi-Fi enabled cameras, (1) motorized 180 view USB camera and carrying case.

For more information on using the Pro + system, refer to the documentation included with the upgrade option.

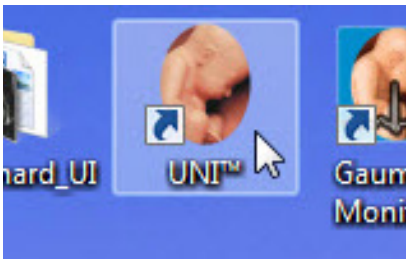
5. Working with UNI®

5.1 Getting Started

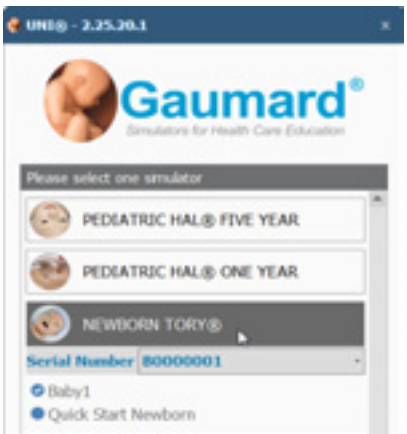
Initiating the Simulator

After reading the manufacturer's care and caution information, press the power button to turn on the Tablet PC.

The UNI® software initializes the simulator. Double click the UNI® icon on the tablet's home screen to start.



The simulator selection menu is shown. Select Newborn Tory and click "Start".



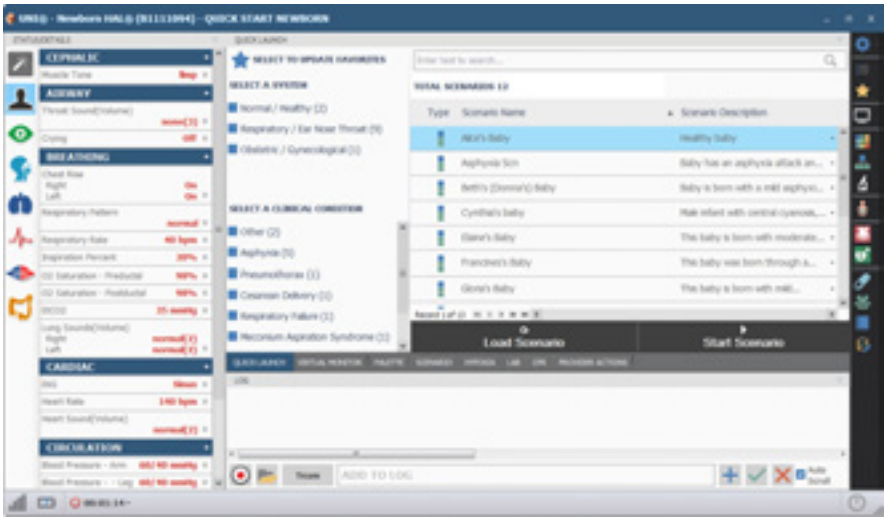
The wireless link between UNI® and the simulator is established within 1 minute.

The available profiles for each simulator will be displayed when the simulator is selected. For more information about managing and creating new profiles, refer to the "UNI digital User Guide".

5.2 UNI® Interface

The UNI® software is used to control the simulator, monitor the vital signs, and evaluate the provider's performance. The simulation technician or instructor carrying out the simulation operates the UNI® software.

The UNI® control elements and scenario programming procedures are consistent throughout the Gaumard family of high fidelity simulators. Some software controls and features covered in this guide may be hidden depending on the simulator's hardware configuration and optional upgrades.



Connection Status

The communication indicator displays the status of the radio link between the tablet's USB RF module and the simulator. Full bars indicate excellent communication (i.e. normal operation).

Battery Indicator

The battery indicator displays the battery charge information. An exclamation sign is shown when there is no communication with the simulator and battery information cannot be retrieved.

When the battery icon is depleted, the simulator is set to STAND-BY mode automatically to protect some of the simulator's internal components. Internal battery duration is approximately 3 hours.

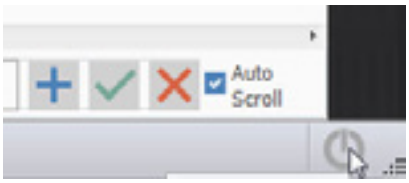
> **Turn Simulator OFF before replacing the battery. Failure to do so could result in serious damage to the system.**

Simulator will not initialize until connected to the charger or the battery is replaced with a fully charged spare.

Session Clock

The session timer allows the facilitator to maintain a chronological record of individual simulation sessions. The session timer can be reset from the file menu when a new simulation session begins, or by clicking the session time icon and then choosing the "Reset Session Clock" option. Events during the simulation are logged in accordance to the session time.

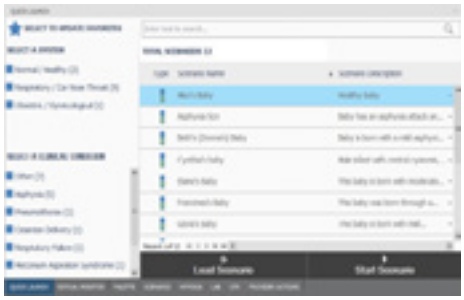
Power/Stand-by Button



The standby button is located on the bottom right corner of the UNI® software. Use the stand-by feature to conserve battery during lectures.

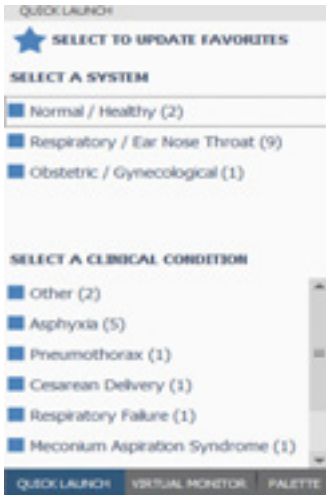
Quick Launch

The UNI interface opens up showing the quick launch page for the scenarios. This page is used to readily access the preprogrammed scenarios saved on each profile.



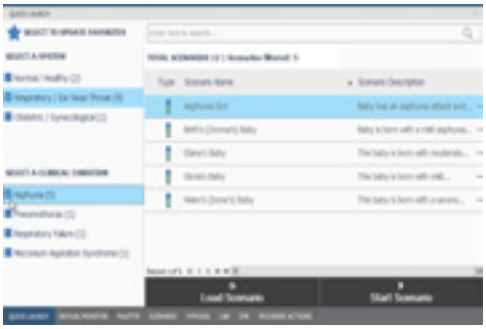
System and Clinical Condition

The scenarios are categorized by system clinical condition as shown on the left of this page; i.e. Respiratory/Ear Nose Throat would be a system and Asphyxia, Pneumothorax, etc. would be the clinical conditions.



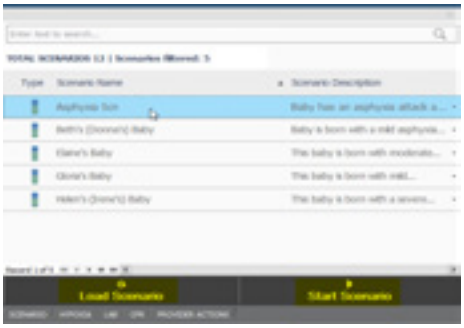
Select the scenario type as show below

Notice that one or more scenario types can be selected at one time and the list of scenarios on the right will display only the scenarios included on the selected categories.

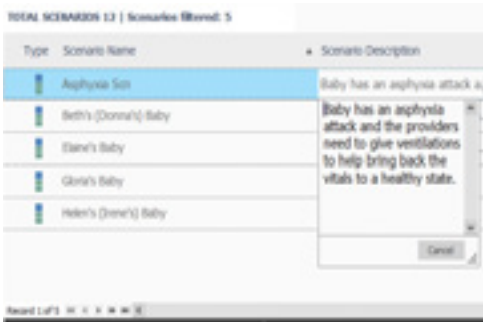


Selecting the Scenario

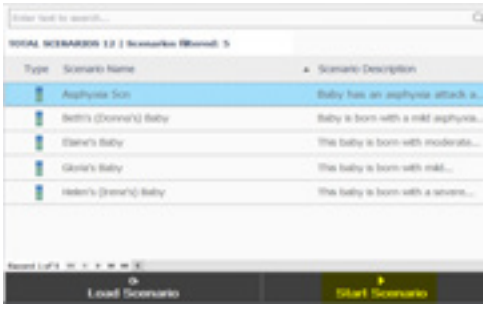
1. Click on one of the scenarios listed to highlight it and the scenario can be started immediately or loaded.



2. Click on the drop-down arrow to the right to read a scenario description.



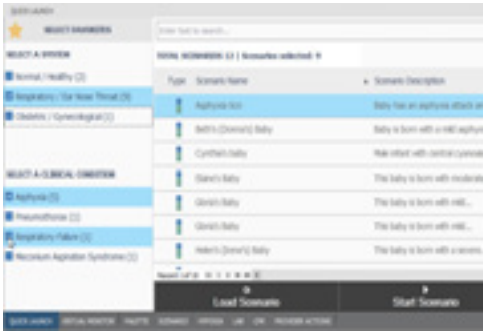
Clicking “Start Scenario” loads the appropriate scenario and starts playing it without the user having to do anything else with the control computer.



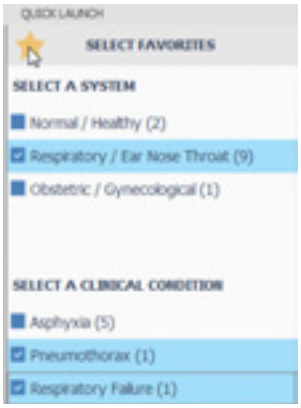
Favorites

“Favorites” is a feature added to the quick launch program.

This feature allows users to reduce the number of scenarios highlighted to those within the categories that will be used most frequently.



Enable the “Favorites” feature by clicking the start icon. Select the systems and clinical conditions or scenario types to be stored under this feature.



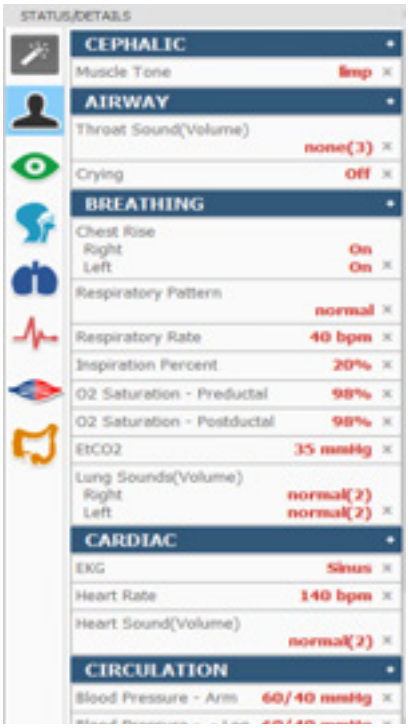
Status/Details Controls

The Status/Details panel is used to monitor and control the simulator's vital signs. The individual parameter controls displayed on the details tab provide the simplest method for controlling the simulator's vital signs, sounds, and features.

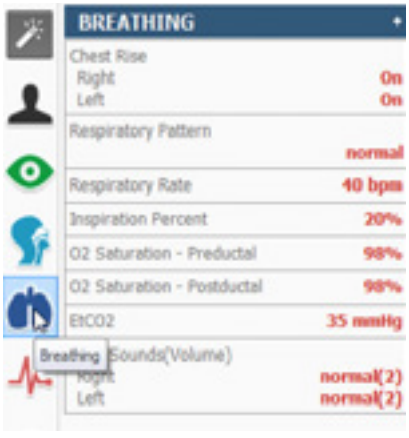
The Status/Details tab displays the vital signs controls in a list format.

Systems List View

The vital signs controls are divided into separate categories.



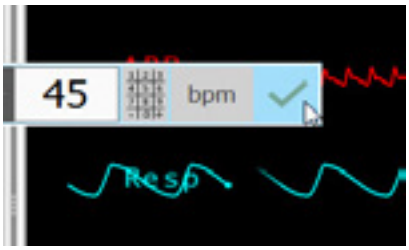
Click through the categories to view the controls available for the current simulator configuration.



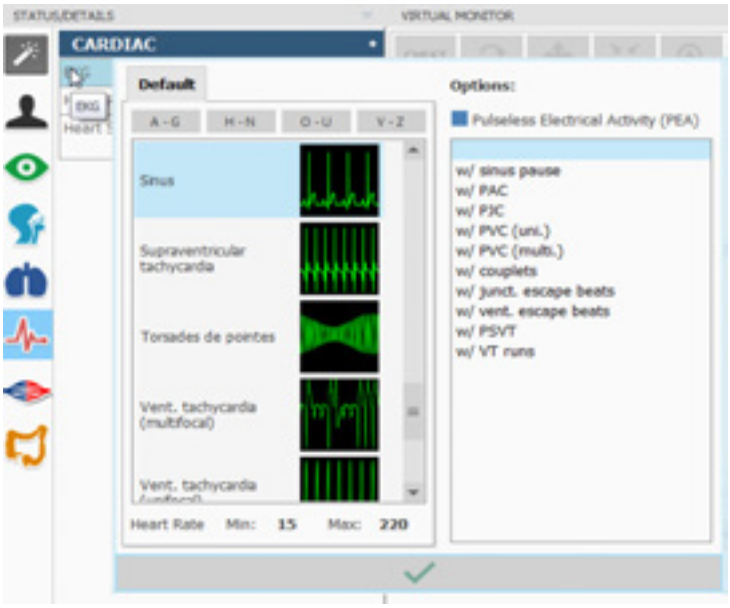
Changing Vital Signs

To adjust numerical values, click and drag the slider control. (e.g. heart rate, blood pressure, respiratory rate, etc.).

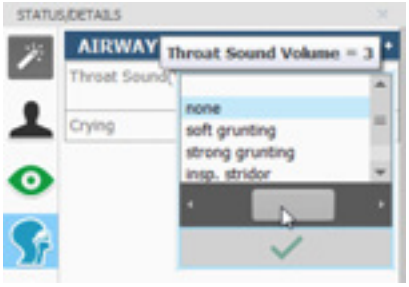
Alternatively, use the keyboard for manual entry and click the green checkmark to confirm the change.



To change patterns, sounds, and rhythms, click on the specific control to display the library (e.g. EKG rhythms, heart and lung sounds,respiratory patterns, etc.)



Click the slider control below the sound library to adjust the volume of the sounds.

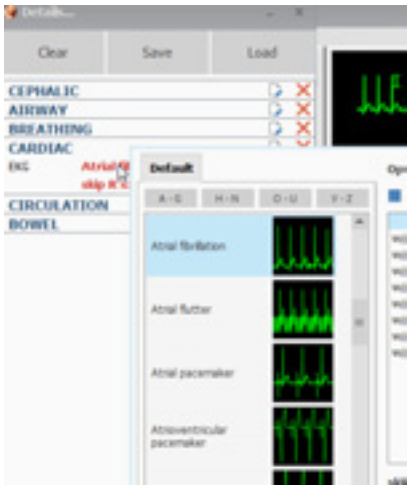


Applying Changes

No changes will be made to the simulator's condition until the new settings are submitted using the "Apply" panel.

After the list of changes is created, click NOW to update the vital signs instantly. Alternatively, click a trending time to update numerical vital sign parameters (e.g. heart rate, blood pressure) gradually.

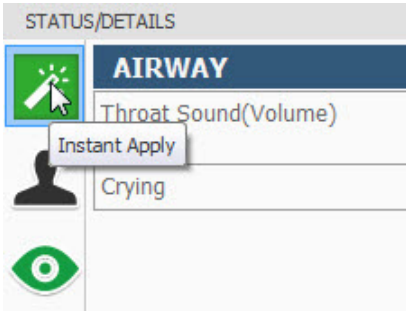
Vital signs can be edited by clicking on the specific parameter.



Also, use the edit and remove tabs to edit a new parameter or remove an existing one.

Notice that until the “Apply” option is selected, the vital signs in the Status/Details panel will not reflect the new changes.

Enable the “Instant Apply” option and click the control to change the vital sign to a new value without the need to use the “Apply” panel. Vital signs undergoing change blink in yellow.



Creating Palette Items

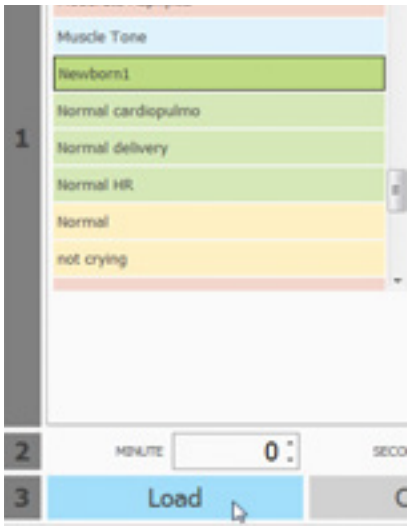
A palette item stores one or more vital sign settings into a single loadable object. Use a palette item to update a set of vital signs quickly. For example, one palette item can be created to update all the cardiac parameters to a healthy state.

To create a new palette item, set the values for the desired vital signs parameters using the details controls and click “Save”.

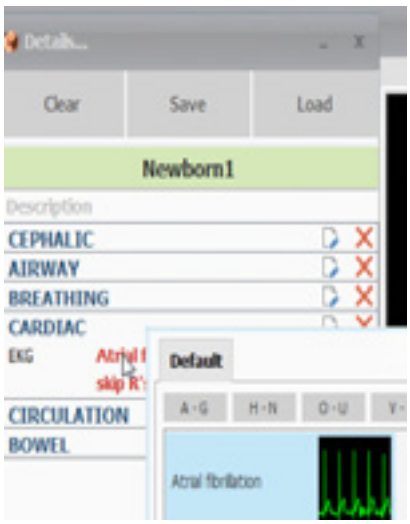
Enter a name for the palette, a description, and choose a color code. Click “Save” to create the new palette Item. Palette items are stored in the active profile.

When the palette is needed, click the “Load” button to select the palette from the library.

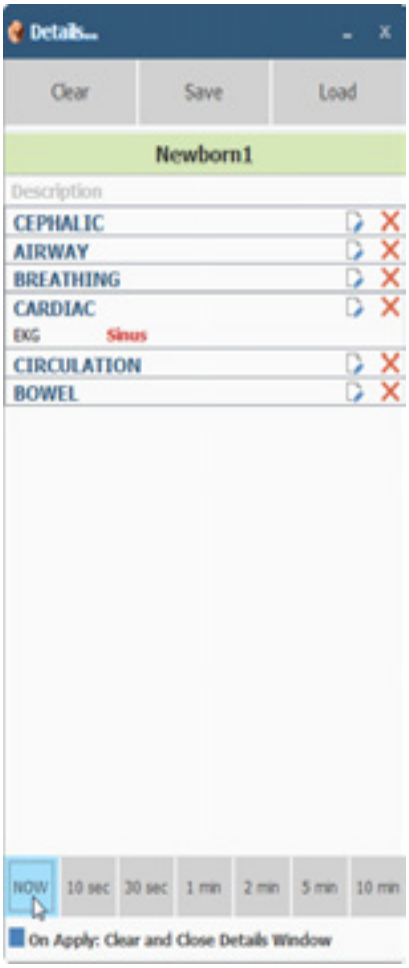
Select the palette item from the “Load Palette Item” menu and click “Load”.



Make changes to the palette by clicking on the specific parameter.

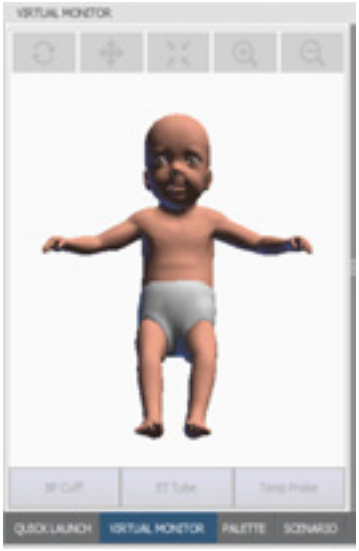


Click the apply option to submit the changes.



Body View

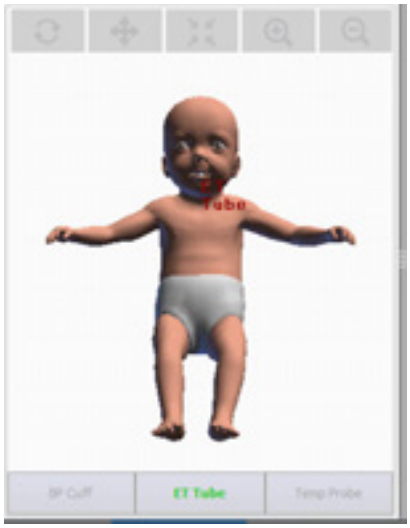
The “Body View” mode displays an interactive model of the simulator. The model is a representation of the simulator and its internal organs.



Use the Body View controls on the top to rotate, move, re-center, and zoom the model. Place the cursor over the body to view the model's internal organs. Also, navigate to the desired category in the list view clicking over the body view.

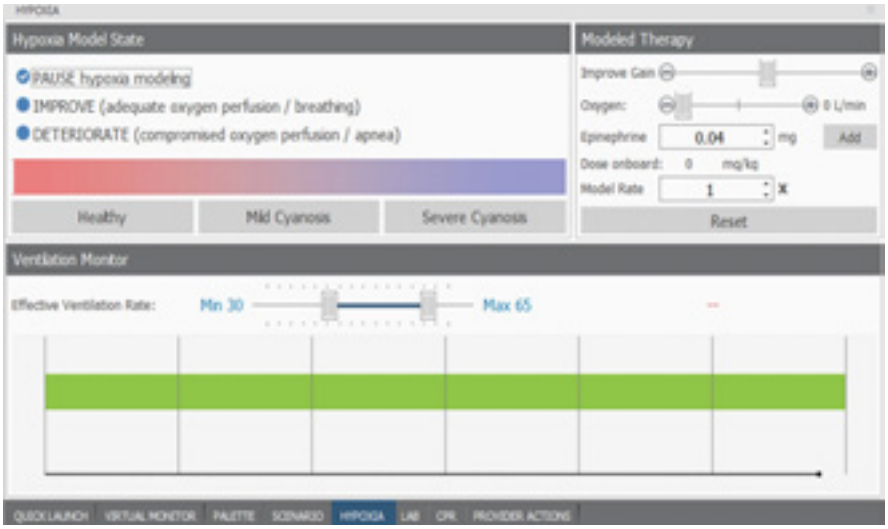
Sensor Panel

The body view includes the sensor panel, which detects the action performed and shows active sensors highlighted in green.



5.5 Hypoxia Model

Use the Hypoxia tab to evaluate the effectiveness of provider intervention on an apneic patient. The model adjusts the cardiac, oxygen saturation, and cyanosis settings dynamically in response to effective ventilations. The model also responds to the administration of epinephrine and oxygen.



Hypoxia Model State

The hypoxia model options improve or deteriorate the cardiac and respiratory vital signs gradually.

- Pause - Model will pause at the current state.
- Improve - Trend the vital signs to a healthy state.
- Deteriorate - Trend the vital signs to a severe cyanotic state. Ventilations are detected when the respiratory rate is at 0.

Cyanosis Levels

- Select the cyanosis level to move to any of the following states immediately:
- Healthy - Pedi is pink with adequate oxygenation.
- Mild Cyanosis - Pedi is slightly blue, and the vital signs are starting to deteriorate.
- Severe Cyanosis - Pedi is blue, apneic, and vital signs are rapidly worsening.

Modeled Therapy

The modeled therapy menu provides additional intervention options.

- Improve Gain - Adjust the slider to increase or decrease the cyanotic response to ventilations.
- Oxygen - Adjust the slider to administer oxygen to the fetus in liters per minute.
- Epinephrine - Administer epinephrine to the model. Set the epinephrine dose and then click “add”. Administering epinephrine increases the heart rate.
- Reset - Click “Reset” to clear the oxygen flow and the epinephrine dose onboard.

6. Scenarios

6.1 Manual Mode Flowcharts

Quick Start Scenarios (Manual Mode)

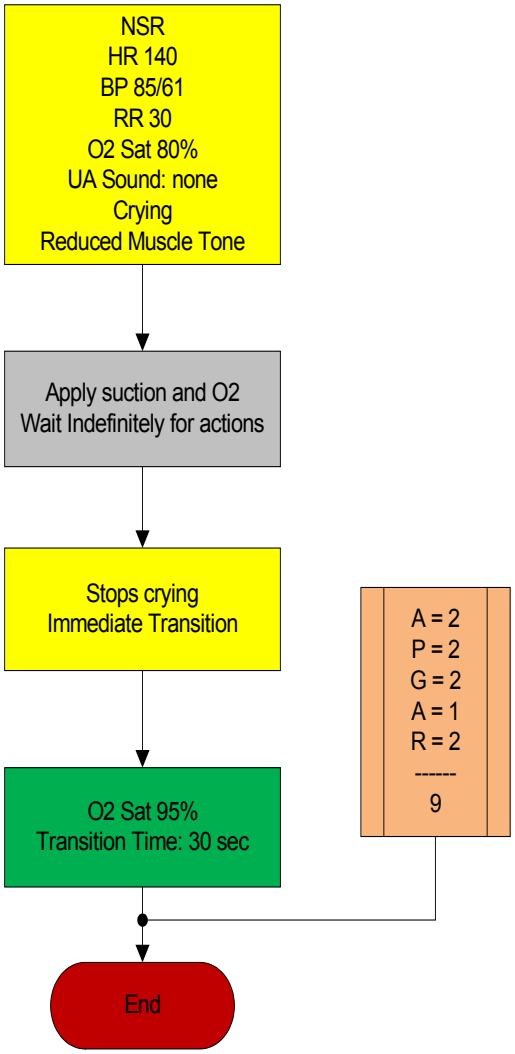
SCENARIO		Clinical Condition	PAGE
1.	Alice's Baby	Normal/Healthy	50
2.	Asphyxia	Respiratory/Asphyxia	51
3.	Beth's (Donna's) Baby	Respiratory/Asphyxia	52
4.	Cynthia's Baby	Respiratory/Pneumothorax	53
5.	Elaine's Baby	Respiratory/Asphyxia	54
6.	Francine's Baby	Cesarian Delivery	55
7.	Gloria's Baby	Respiratory Failure/Asphyxia	56
8.	Helen's (Irene's) Baby	Respiratory/Asphyxia	57
9.	MAS	Meconium Aspiration Syndrome	58
10.	RDS	Respiratory Distress Syndrome	59
11.	TTN	Transient Tachypnea of Newborn	60

Automatic Mode

Meds Profile	Automatic-Linear
1. Adenosine OD	
2. Adenosine SD	
3. Adenosine UD	
Quick Start Newborn Modeling	**Automatic-Linear**
1. Variations A	
2. Uterine Rupture A	
3. Shoulder Dystocia A	
4. Preeclampsia A	
5. Healthy Baby B	Baby was delivered SVD and is fairly vigorous
6. Healthy Baby A	It is vigorous and earns good APGAR
7. Faye baby	
8. Embolism Baby A	
Quick Start Newborn Modeling	**Automatic-Branching**
1. Variations branching	

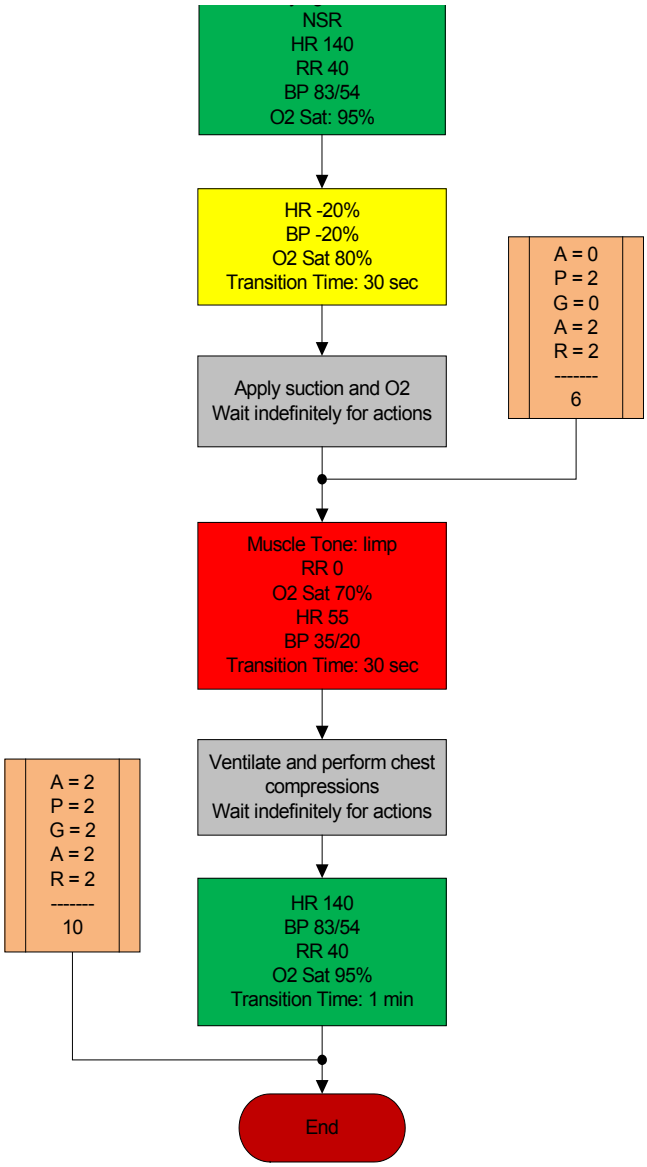
Scenario 1: Alice's Baby | Newborn Tory

Healthy Baby



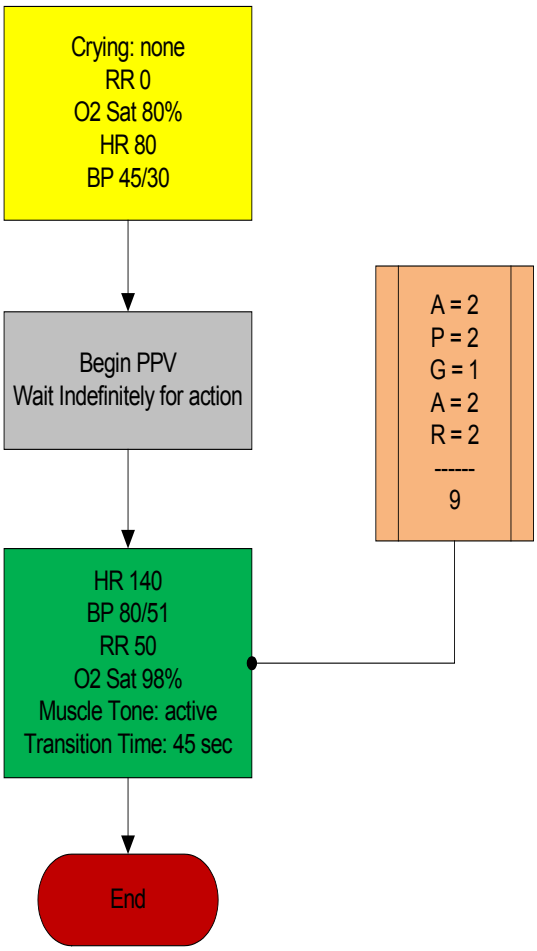
Scenario 2: Asphyxia | Newborn Tory

Baby has an asphyxia attack and the providers need to give ventilations to help bring back the vitals to a healthy state.



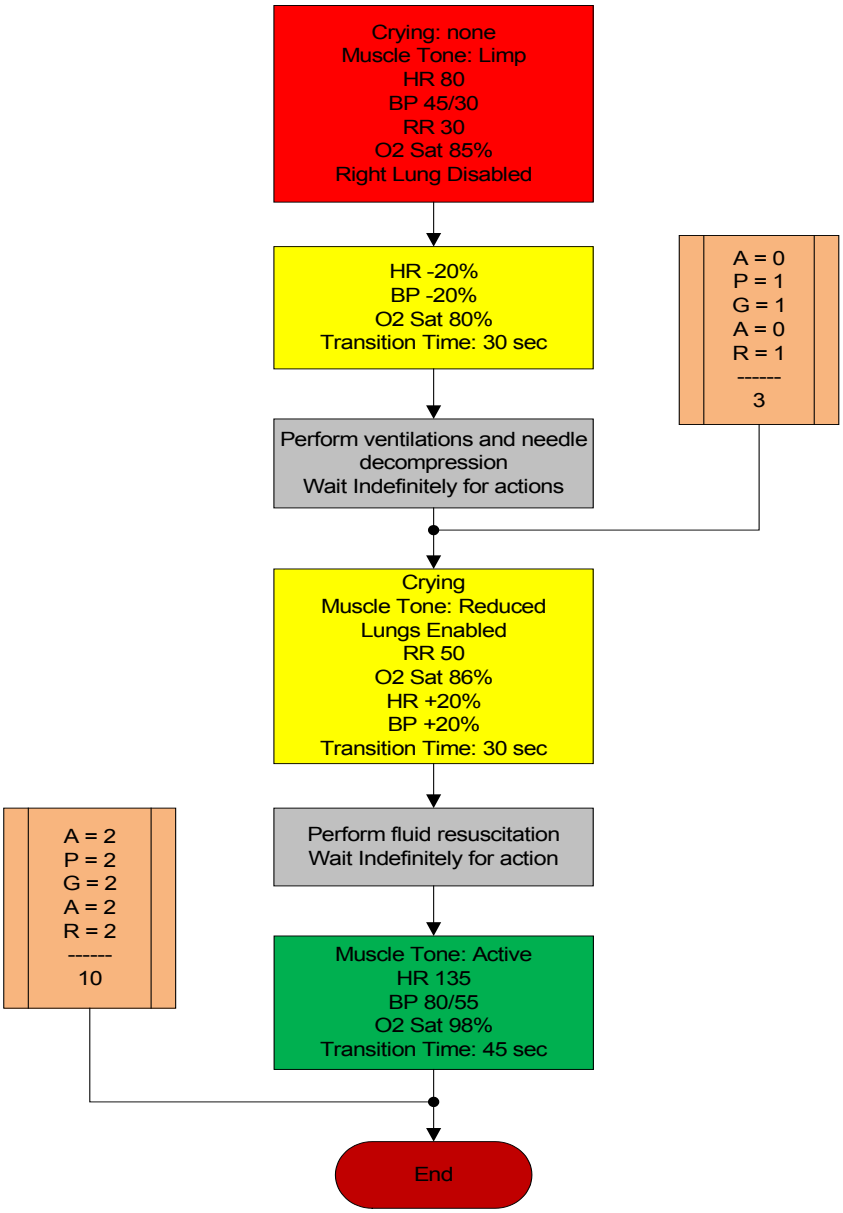
Scenario 3: Beth's (Donna's) Baby | Newborn Tory

Baby is born with a mild asphyxia that needs attention. Once ventilations are started, the baby's vitals go to a healthy state.



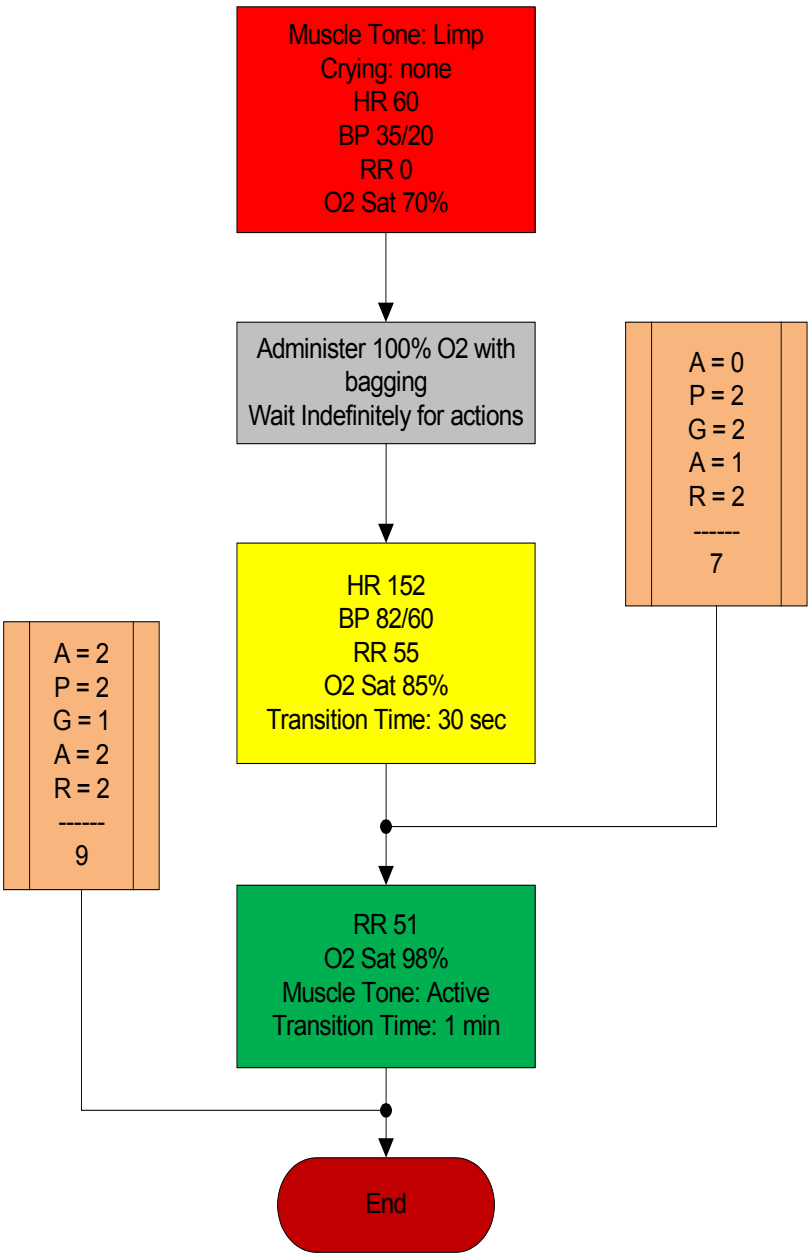
Scenario 4: Cynthia's Baby | Newborn Tory

Male infant with central cyanosis, limp, flaccid and requires immediate resuscitation. No spontaneous movement of the right arm is noted. Stat CXR reveals a fractured right clavicle and right pneumothorax



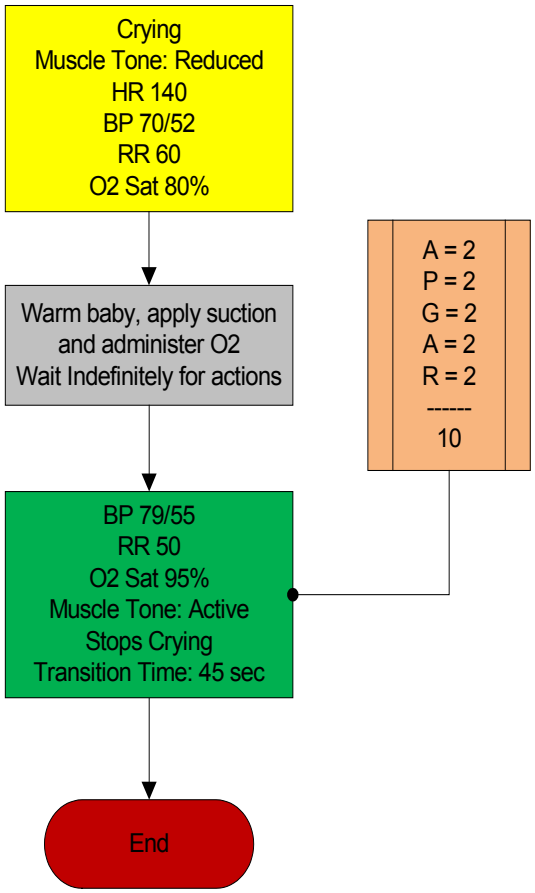
Scenario 5: Elaine's Baby | Newborn Tory

This baby is born with a moderate asphyxia, and will require CPR and oxygen to bring the vitals to a healthy state.



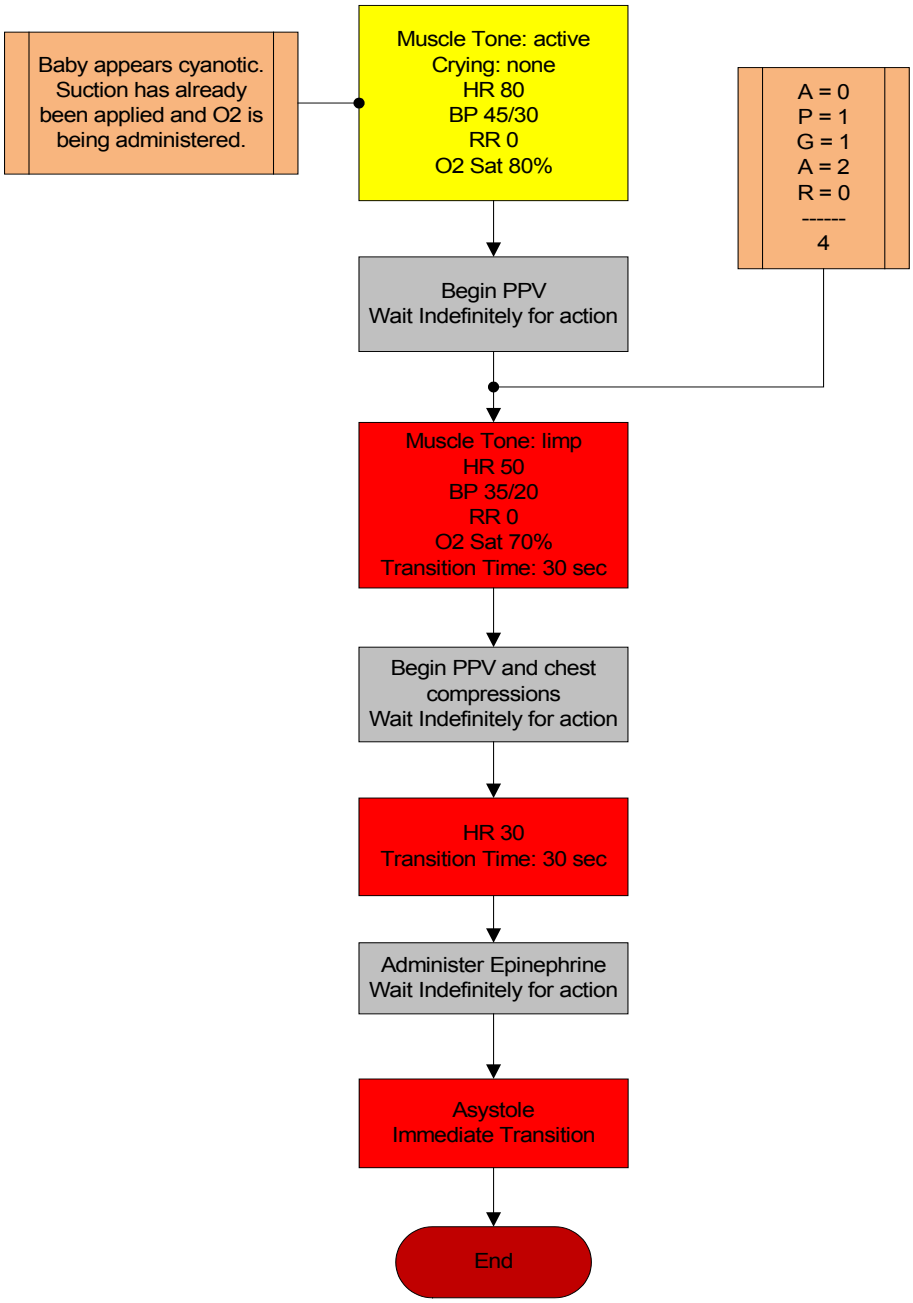
Scenario 6: Francine's Baby | Newborn Tory

This baby was born through a C-Section and is responsive but needs some attention, after a while all vital go to a healthy state.



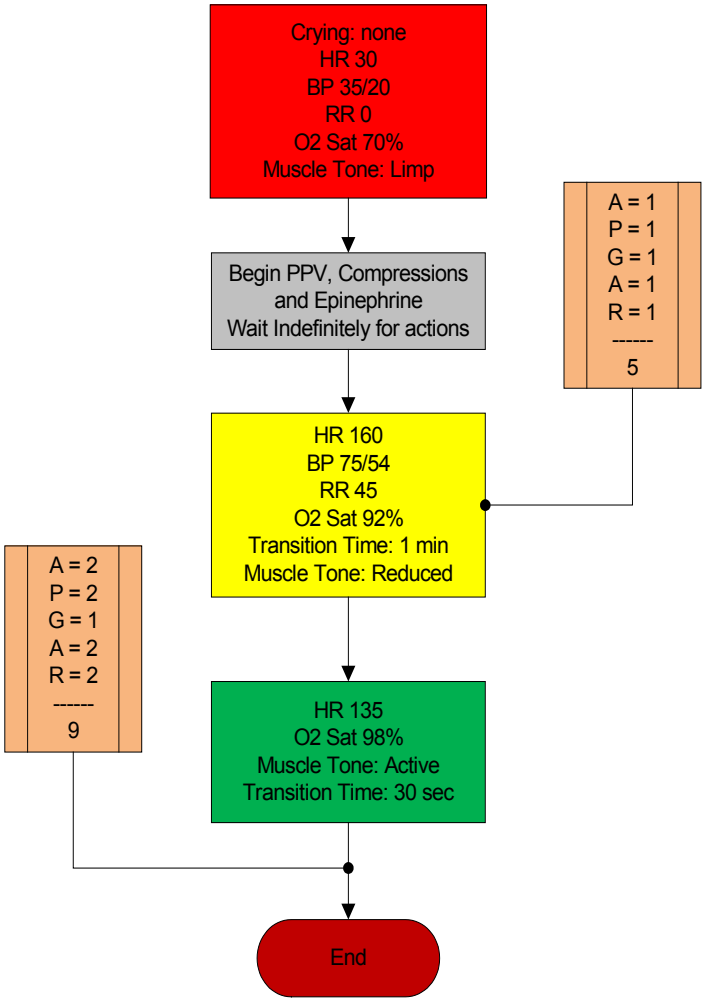
Scenario 7: Gloria's Baby | Newborn Tory

The baby is born with mild asphyxia, but no matter how good the interventions are, this disastrous intrapartum complication results in neonatal death.



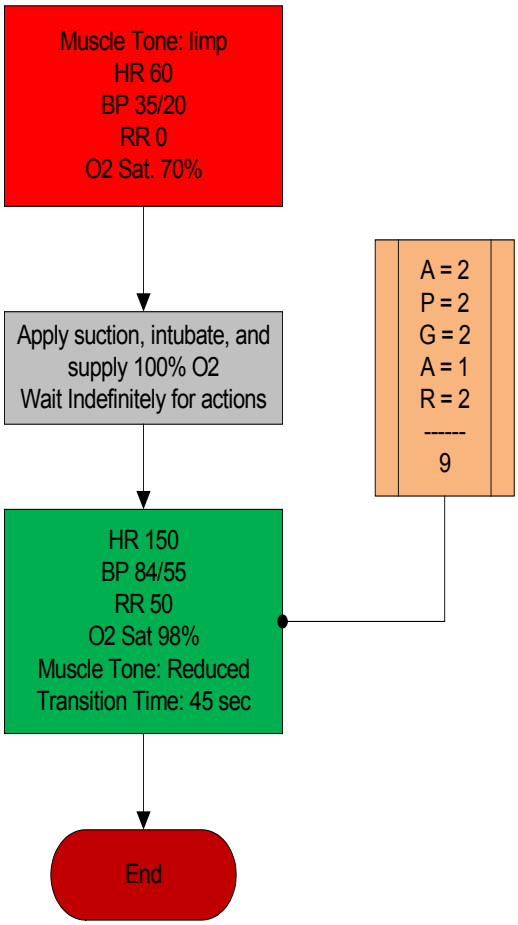
Scenario 8: Helen's (Irene's) Baby | Newborn Tory

The baby is born with a severe asphyxia that has to be treated immediately. After ventilations and EPI have been given, the baby's vitals go towards a good outcome.



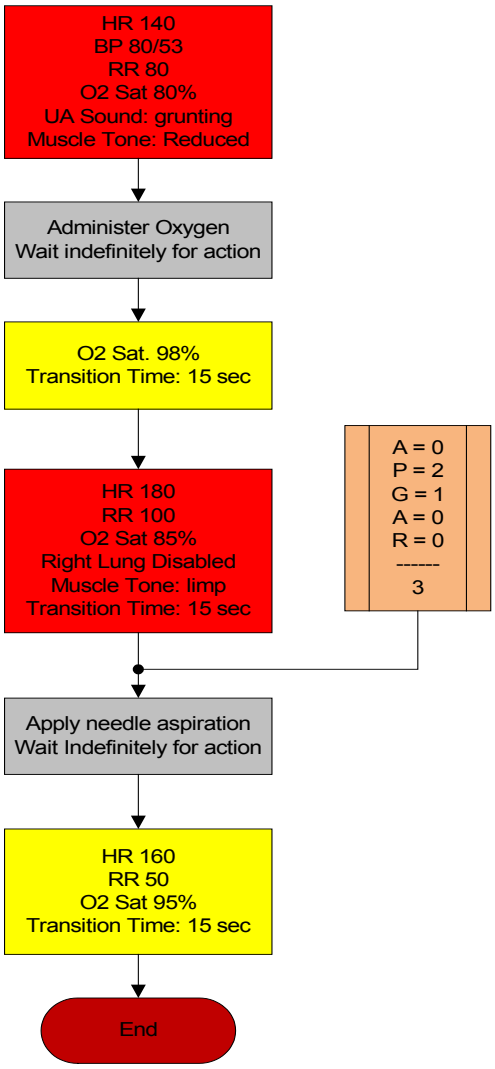
Scenario 9: MAS | Newborn Tory

Meconium Aspiration Syndrome



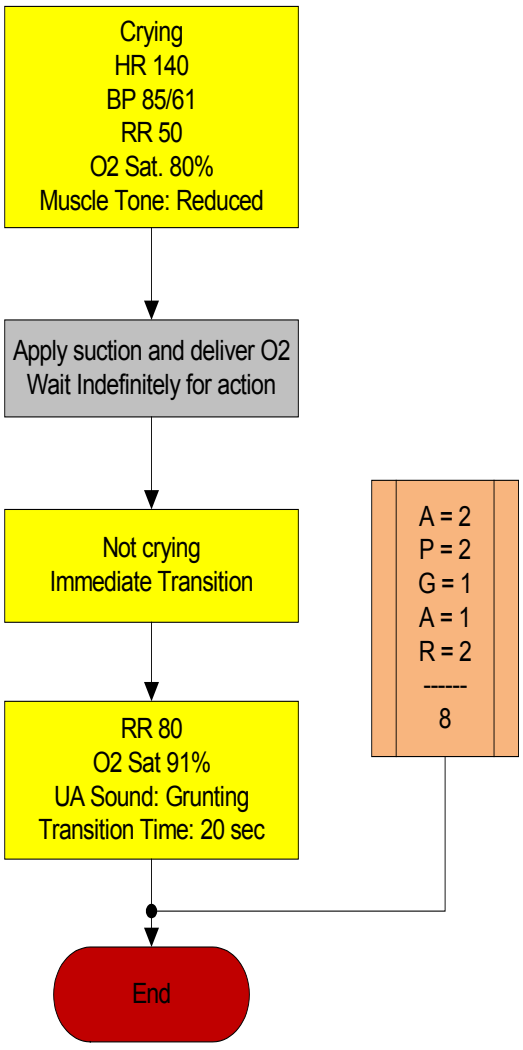
Scenario 10: RDS | Newborn Tory

Newborn with mild Respiratory Distress Syndrome gets a pneumothorax after oxygen is given.



Scenario 11: TTN | Newborn Tory

Transient Tachypnea of the Newborn



6.3 More About Scenarios

Thinking In Terms of Palette Items

As described previously, palette items represent complete or partial groups of settings that have been stored as a single item. Applying partial states will hold constant all settings that are left unspecified.

Not only does it take time to customize the palette, but a very large palette becomes difficult to navigate. So, it is desirable to minimize the number of Palette Items in each Profile. To accomplish this, an experienced facilitator should try to create items that are as generally applicable as possible and can be applied to a wide range of scenarios. The key is to only include in your palette items the settings that are directly related to the physiological event represented by that palette item.

Smart Scenarios

After reading the Details, Palette, and Scenarios sections of this guide, it should be clear how to build a scenario. You may have already tried building your own or modifying some of the factory presets. The following four guidelines will refine your ability to build the best possible scenarios.

1. How will the scenario begin?

The first thing to consider is the initial condition of the patient. Create a Palette Item to describe this condition. Make sure that this first step in the scenario is a complete state. That is, indicate a selection for each available setting on the Status/Details panel. Remember that only the settings you specify will cause a change in the simulator, and all other settings will remain constant. Therefore, by starting with a complete state, simulator's condition will always be the same when the scenario starts, regardless of how he was doing previously.

Likewise, the "transition duration" of the first step in the scenario should be zero, indicating that changes are applied immediately.

There is one point that can cause confusion and warrants further explanation. It is an extension of the above discussion of partial states. The issue is best illustrated through the following example:

Suppose that you are creating a Palette Item to start your scenario. In this case, you have decided that the patient will be apneic. The question is, "How should the lung sounds be set?"

Most people's first inclination is to set the lung sounds to "none." This is incorrect, despite apnea. Obviously, no lung sounds should be heard during apnea, but since you have already set respiratory rate to zero, none will be. (Sounds are synchronized to the breathing cycle.)

What you are really setting here when you choose a lung sound is the condition of the lungs, given respiratory drive. That is, if the patient's respiratory rate was changed from zero, what sound would be heard? Assuming that the lungs themselves are normal in this scenario, you would choose "normal" for the lung sound setting.

Then, as the scenario progresses, if the patient starts breathing, there will be no need to set the lung sound again. It will already be set. The same principle applies to the heart sound and other settings.

2. Include notes to guide the facilitator during the simulation.

It is common for scenario designers, especially those who act as facilitators, to neglect the importance of notes in the scenario. The facilitator may think that they will remember the learning objectives, patient history, and other details at the time they are ready to conduct the simulation. They usually do not, especially when revisiting a scenario months after creating it.

When you add "Wait" and "Wait Indefinitely" steps to a scenario, you have an opportunity to edit the item description. Use this description field to hold notes to the facilitator. Typically, scenario designers write notes in that space to indicate what the provider(s) or facilitator should be doing at that point.

Further, when saving the scenario, you may edit the scenario description. This is the best place to put patient history and any other longer notes and instructions.

3. Assume that providers will do the right thing.

Usually a scenario should be created with the assumption that the providers will perform correctly. As long as they do, the scenario can be allowed to continue.

Naturally, preparation must be made for what might happen to the simulator when providers deviate from expectations. The consequences of such deviations can sometimes be included in the scenario, punctuated by "Wait Indefinitely" items. In other cases, the simulation will require more direct control by the facilitator via either the Palette or Status/Details panel.

4. Choose auto-response settings based on the scenario content and the objectives.

As seen, auto-responses can be used to free the facilitators' attention. They also enhance realism by presenting instant reactions to the care providers. On the other hand, sometimes it is not possible or desirable to determine the responses before the simulation begins. Different environments and applications call for different settings.

Some teaching practices are best done with the auto-response settings in Prompt mode. Responses must be triggered by a vigilant facilitator. Though it is slower and requires more attention, the benefit of Prompt over other modes is that the simulation can be allowed to go in any direction, and it will be possible to choose the response on a case-by-case basis.

Other learning exercises require a higher degree of automation. For such applications, most facilitators choose Auto mode for the auto-response settings. The key issue is standardized timing of symptom presentation. A consistent, repeatable simulation is essential for fair assessment of that care provider in relation to others and for the broader interpretation of results in the context of training validation studies.

When in doubt, it is best to choose Prompt mode, in which the facilitator will be given direct control of the responses as events are detected.

7. Appendix

7.1 Troubleshooting

Communication/Power Issues

Communication with the simulator cannot be established or signal strength is weak

Battery is discharged or damaged	Plug in the charger and if communication is established then charge battery as per procedure explained in the manual.
Controlling computer is too far away from simulator	Minimize the distance between simulator and the tablet.
Interference caused by physical obstructions	Maintain line of sight with the simulator and direct the RF module towards the simulator
Attempting to communicate with a different simulator	Configure UNI™ to connect to the simulator by serial number under Menu > Setup > Options. Refer to digital UNI™ User Guide under Menu > Help > Instruction Manual
RF module is not detected by the controlling PC	Close the software and disconnect the RF module for at least five seconds, then plug it back in and restart the software. Connect the RF module in a different USB port.

Controlling multiple simulators from a single controlling PC	Select different channels for each of the simulators, and then try to turn them on one at a time, which means to wait until a link has been established between the tablet and the first simulator. Only after that, start the User Interface software for the second simulator, and so on for the rest of the simulators. To do so go to menu Setup > Options > Environment and then check the “Check noise in channel” box or simply manually select a desired channel.
AC adapter is damaged	Verify the power adapter LED to ensure the adapter is working. Disconnect the power adapter from the wall and the simulator and inspect the connector for damage or broken pins.
All Others	Close the User Interface software and unplug the RF module for at least 5 seconds, then plug it back in. Restart the software and wait for initialization.

Commands are taking longer than usual to take effect or simulator is not reporting every action (Signal strength indicator is low)

Distance between computer and manikin is reaching its limit, or there are too many obstructions in between (walls, etc.)	Get simulator closer to computer or move away from obstructions.

There's too much RF interference either from another Gaumard tetherless simulator in the vicinity or an RF radiator.	Try changing the RF channel by going to Menu > Setup > Options > Environment.

Simulator does not run on internal battery power

Battery is old or not charged properly	When plugging in the charger, make sure the LED indicator goes through the complete charging sequence described in the charger's label. Replace battery. Batteries would last between 2-3 years depending on use. Battery life is dramatically reduced if it hasn't been charged at least once every 3 months.

UNI™ has set the power mode to STAND-BY automatically

The battery on the manikin is depleted	Turn off the simulator and plug in the charger.

Simulator doesn't respond to any command although signal strength is excellent

UNI™ has established communication with a different simulator	Configure UNI™ to connect to the simulator by serial number under Menu > Setup > Options. Refer to digital UNI™ User Guide under Menu > Help > Instruction Manual

Miscellaneous Issues

Intubation is falsely detected

Intubation sensor requires recalibration	Remove any adjuncts from the airway and complete the reset procedure outlined. Refer to digital UNI™ User Guide under Menu > Help > Instruction Manual.

Artificial ventilations are not properly detected or not detected at all

Ventilations are not calibrated	See the “Calibration Wizard”. Refer to digital UNI™ User Guide under Menu > Help > Instruction Manual.

Chest does not rise with artificial ventilation (e.g. BVM)

Simulator is not running	Turn the simulator on
Air is escaping between the mask and the simulator’s skin	Maintain a tight seal between the BVM mask and the simulator

Low chest rise (or no chest rise at all) while breathing

Respiratory pattern is set to apnea	Change the respiratory pattern to a healthy pattern

Chest compressions are not detected

Heart rhythm is set to sinus	Set the heart rhythm to a critical heart rhythm such as VFib or Asystole
Compression sensor is not calibrated	Calibrate the chest compressor using the UNI™ calibration menu. Refer to digital UNI™ User Guide under Menu > Help > Instruction Manual

Korotkoff sounds do not match systolic and/or diastolic set values

BP sensors are offset	Recalibrate BP cuff sensors on the simulator as per “Calibration” section
Wrong placement of BP Cuff	See correct cuff placement under section “Circulation”

No brachial pulse

Brachial pulses are disabled	Enable the radial pulses using the details controls
Blood pressure values require calibration	Refer to digital UNI™ User Guide under Menu > Help > Instruction Manual to recalibrate the blood pressure

Preprogrammed scenarios are not available

Incorrect profile is loaded	Load the “Quick Start Newborn Tory” profile. To switch between profiles without exiting the software, Click File > Profile on the menu bar.

The simulator’s audible features (heart, lung, Korotkoff, etc.) are low or cannot be heard at all

Audio feature volume is set to mute or low	Adjust the volume levels on the status panel

Virtual Monitor Connection Issues

Vital signs are flatlined or not updating

PC and virtual monitor are not connected to the wireless network	Tablet only: Exit the UNI™ software and the Gaumard Monitors software and connect to the GaumardNet network. Restart the Gaumard software. PRO+ only: Exit the UNI™ software and the Gaumard Monitors software and connect to the PRO+ network. Restart the Gaumard software.

UNI™ is not broadcasting the vital signs information.	Tablet only: From the Gaumard menu bar, go to Monitors > Configuration. Set the adapter to “Wireless network connection”. Verify the controller name and port number match the settings on the Gaumard monitor’s “Comm Setup” menu.
	PRO+ only: From the Gaumard menu bar, go to Monitors > Configuration. Set the adapter to “Local Area Connection”. Verify the controller name and port number match the settings on the Gaumard monitor’s “Comm Setup” menu.
USB communication module is not connected	Connect the Communication module to the control computer and restart the software.
Virtual monitor option is not activated	On the menu bar, click Setup > Options > Environment tab and set the connection mode to FIXED, then enter the simulator’s serial number and save the settings. Return to the Options menu and select the “Add-ons” tab. Checkmark the “Use virtual monitors” option and enter the activation code. Finally, restart the software.
Sensors are off	On the UNI™ menu bar, go to Monitors > Sensors > and click “All on”

Recording and Debriefing Issues

PRO+ cameras are not detected in the camera setup menu

The wireless camera's power supply is not connected to a power outlet	Connect the camera to the power supply and restart the PRO+ PC
The PRO+ internal wireless antenna is off	Set the PC's wireless capability switch to the "On" position.
The wireless network name has been changed	On the PRO+ wireless network properties, change the wireless name back to the factory default.

Camera is detected in the camera setup but there is no feed on the main window

Main view distribution is not configured	Click the "Main view" setup icon, and select the active video and monitor feeds.

Events are not listed on the PRO+ event panel during the scenario

RF Module is not connected	Connect the RF module and restart the software
PRO+ is not recording	On the UNI™ menu bar, click File > New Session to start a new scenario

7.2 Wireless Communication

Wireless Network Instructions with USB Router

USB Router Setup

These first steps of the instructions will apply to customers receiving the router as an upgrade. If you received the Gaumard Monitor computer with the router already attached, please proceed to step number 4:

1. Add Velcro to USB router and VM

2. Connect Router to USB power supply (Computer can be packaged with router connected)

3. Open the Wireless Network Connection on the Monitor Computer and connect to the default network, which name will be (GaumardSimulatorSerialNumber) (Example: GaumardB0000001)

4. Open the Wireless Network Connection on the simulator control computer and connect to the same network name (GaumardB0000001)

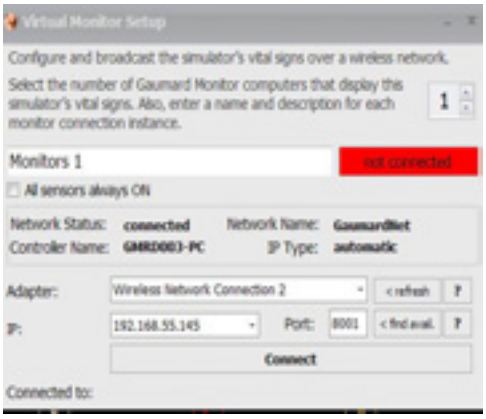
Configure the Vital Signs Broadcast

Complete next steps to configure the transmission of the vital signs information, after the wireless connection is established between both computers.

1. Verify that both computers are connected to the GaumardB0000001 t network using Windows® wireless connection menu. If the computers are not connected, select the network name and click “Connect” manually.

2. Start the UNI control software on the control computer.

3. On the UNI menu bar, click Monitors> Configuration.



The "simulator Virtual Monitor Setup" window is displayed now

4. Set the adapter to "Wireless network connection"

5. Verify the network status and network name, and then click "Connect" to begin transmitting the vital signs information.

6. Verify that the IP Type is set to automatic, if not From the menu bar, go to Help> "Create ad-hoc Wireless Network"

7. The "Controller - Create Ad-hoc Wireless Network" window is displayed Select the "Set Dynamic IP" to set the IP automatic and close this window

8. On UNI menu bar, click again Monitors> Configuration

9. Write down the “Controller Name” and “Port number”

10. Start the Gaumard Monitors software on the virtual monitor PC.

11. Click the “V” menu near the top left corner, and then select “Comm Setup”.

The “Comm Setup” window is displayed

12. Enter the controller name from the UNI software and verify the port number

13. Click “Connect” to accept the incoming connection

14. Verify the network status and network name, then click “Connect” to begin transmitting the vital signs information

15. Write down the “Controller Name” and “Port number”

16. Start the Gaumard Monitors software on the virtual monitor PC

17. Click the “V” menu near the top left corner, and then select “Comm Setup.” The “TCP Comm Setup” window is displayed

18. Click “Connect” to accept the incoming connection

7.3 Replacing Consumables

IV Arms and Left Leg Replacement

To replace the IV lower arms and left lower leg, follow the instructions listed below:

Gather the following items:
›› Allen Key
›› Replacement lower arms and left leg

1. Attach the drainage tube to the drainage port on the lower arm of the simulator, and purge the system of any fluids that may remain from prior use.

2. Remove drainage tube after the arm has been purged

3. Use the Allen key provided to unscrew the lower arm as shown in the picture

4. Completely separate the lower arm from the upper arm

5. Follow the same steps to disconnect the left lower leg

6. To install the new lower arm/ left leg to the upper arm/ upper leg reverse the steps as instructed above

7.4 Consumables List

Please contact Gaumard for more information regarding consumables.

Item	Description	Price*	Color	Code
Lower Left Leg		$125.00	Light	S2210.027.L.L
		$125.00	Medium	S2210.027.L.M
		$125.00	Dark	S2210.027.L.D
Umbilical Cord Kit		$250.00	Light	S2210.137.L
	(Set of 3)	$250.00	Medium	S2210.137.M
		$250.00	Dark	S2210.137.D
I/O Leg Skin Cover		$40.00	Light	S2210.029R.L
		$40.00	Medium	S2210.029R.M
		$40.00	Dark	S2210.029R.D
Lower Left Arm		$140.00	Light	S2210.023L.L
		$140.00	Medium	S2210.023L.M
		$140.00	Dark	S2210.023L.D
Lower Right Arm		$140.00	Light	S2210.023R.L
		$140.00	Medium	S2210.023R.M
		$140.00	Dark	S2210.023R.D

Item	Description	Price*	Code
Battery		$74.00	S2210.010
I/O Tibia Bones	(Set of 7)	$125.00	S2210.031
Mineral Oil		$10.00	S2210.181

* Pricing and availability are subject to change. Prices are valid through December 31st, 2015

8. Warranty

8.1 Exclusive One-Year Limited Warranty

Gaumard warrants that if the accompanying Gaumard product proves to be defective in material or workmanship within one year from the date on which the product is shipped from Gaumard to the customer, Gaumard will, at Gaumard's option, repair or replace the Gaumard product.

- This limited warranty covers all defects in material and workmanship in the Gaumard product, except:
  - Damage resulting from accident, misuse, abuse, neglect, or unintended use of the Gaumard product;
  - Damage resulting from failure to properly maintain the Gaumard product in accordance with Gaumard product instructions, including failure to property clean the Gaumard product; and
  - Damage resulting from a repair or attempted repair of the Gaumard product by anyone other than Gaumard or a Gaumard representative.

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This limited warranty applies only to the first purchaser of the product and is not transferable. Any subsequent purchasers or users of the product acquire the product "as is" and this limited warranty does not apply.

This limited warranty applies only to the products manufactured and produced by Gaumard. This limited warranty does not apply to any products provided along with the Gaumard product that are manufactured by third parties. For example, third-party products such as computers (desktop, laptop, tablet, or handheld) and monitors (standard or touch-screen) are not covered by this limited warranty. Gaumard does not provide any warranty, express or implied, with respect to any third-party products. Defects in third-party products are covered exclusively by the warranty, if any, provided by the third-party.

- Any waiver or amendment of this warranty must be in writing and signed by an officer of Gaumard.
  - In the event of a perceived defect in material or workmanship of the Gaumard product, the first purchaser must:
  - Contact Gaumard and request authorization to return the Gaumard product. Do NOT return the Gaumard product to Gaumard without prior authorization.
  - Upon receiving authorization from Gaumard, send the Gaumard product along with copies of (1) the original bill of sale or receipt and (2) this limited warranty document to Gaumard at 14700 SW 136 Street, Miami, FL, 33196-5691 USA.

If the necessary repairs to the Gaumard product are covered by this limited warranty, then the first purchaser will pay only the incidental expenses associated with the repair, including any shipping, handling, and related costs for sending the product to Gaumard and for sending the product back to the first purchaser. However, if the repairs are not covered by this limited warranty, then the first purchaser will be liable for all repair costs in addition to costs of shipping and handling.

8.2 Gaumard Cares Service Plans

In addition to the standard one year of coverage we offer a range of service plans through our Gaumard Cares program. For more information about Gaumard Cares Service Plans please contact customer service.

9. Contact Gaumard

9.1 Contacting Technical Support

Before contacting Technical Support you must:

1. Have the simulator's serial number
2. Have access to the simulator for possible troubleshooting

Technical Support:

Email: support@gaumard.com
USA: 800-882-6655
INT: 01-305-971-3790

9.2 General Information

Sales and Customer Service:

E-mail: sales@gaumard.com
USA: 800-882-6655
INT: 01-305-971-3790
Fax: 305-971-3790

Post:

Gaumard Scientific
14700 SW 136 Street
Miami, FL 33196-5691
USA

Office Hours:

Monday-Friday, 8:30am - 7:30pm EST (GMT-5, -4 Summer Time)

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